



**STATE OF HAWAII
DEPARTMENT OF ACCOUNTING
AND GENERAL SERVICES**

P.O. BOX 119
HONOLULU, HAWAII 96810-0119

August 2, 2001

COMPTROLLER'S CIRCULAR NO. 2001-02

TO: All Department Heads

FROM: Wayne H. Kimura, State Comptroller

SUBJECT: Policy and Guidelines Relating to Electronic Records Retention and Disposition

Public officials are responsible for the protection and accessibility of *government records* under their purview. This policy and guidelines relating to electronic records disposition governs agencies subject to the State Comptroller's authority pursuant to Hawaii Revised Statutes, §94-3.

Any questions regarding this Circular may be directed to the Records Management Branch at 831-6770.

I. Definitions

Electronic record includes numeric, graphic, and text information, which may be recorded on any medium capable of being read by a computer and which satisfies the definition of a record. This includes, but is not limited to, magnetic media, such as tapes and disks (hard and floppy), and optical disks.

Government record is defined as information maintained by an agency in written, auditory, visual, electronic, or other physical form, Hawaii Revised Statutes, §92F-3.

Human-readable storage medium means paper, photograph, photocopy, or microform, including microfilm, microfiche, computer output microfilm, and aperture cards.

Long-term retention period means records with an authorized retention period of more than ten years.

Permanent retention period means records with an authorized retention period of permanent (in perpetuity).

Records retention and disposition schedule means a Records Disposition Authorization Form SA-1 or General Records Schedule issued by the State Comptroller, pursuant to Hawaii Revised Statutes, §94-3. The schedule describes the records series, the minimum time the record shall be retained, and provides authorization for its disposition.

Short-term retention period means records with an authorized retention period of ten years or less.

II. Policy and Guidelines

Electronic records shall comply with records-related laws, regulations, and authorized records retention and disposition schedules. Retention concepts for electronic records are the same as those for non-electronic records. However, any long-term retention of electronic records is complicated by limited media stability and hardware/software dependence. Digitized records lack longevity unless they are continually recopied and migrated to new systems. Standards for the digitization of records are still evolving. Therefore, hybrid approaches may be required for records with *permanent* retention requirements. For example, optical disks may be used for reference, and paper or microfilm retained to meet long-term retention requirements.

A. General guidelines for all electronic records

1. Recommend non-proprietary hardware and software components, open system architecture or require vendors to provide a bridge to systems with non-proprietary configurations.
2. Establish and document operational procedures and technical specifications to ensure the future usability of the system, continued access to records with long-term retention periods, and the legal integrity of the records.
3. Create and maintain master and backup copies of records.
4. Conduct annual statistical sampling to identify any loss of data.
5. Storage requirements - stable environment with a temperature between 65 and 75 degrees, and a relative humidity between 30 and 50 percent.

B. Optical imaging systems

1. Agency planning and procuring automated image processing systems intended to supplement or replace paper record keeping systems should

refer to the publications ANSI/AIIM TR 25-1995 *The Use of Optical Disks for Public Records* (\$45.00) and ANSI/AIIM TR 27-1996 *Technical Report for Information and Image Management - Electronic Imaging Request for Proposal (RFP) Guidelines* (\$52.00).

2. Imaging system for keeping public records shall record direct reproductions of scanned documents. The system shall not be capable of altering a public record as scanned, except for standard computer-enhancement routines to improve the legibility of scanned documents.
3. Life expectancy rating of any optical media shall be demonstrated according to criteria established by the National Institute of Standards and Technology in *Development of a Testing Methodology to Predict Optical Disk Life Expectancy Values (NIST Special Publication 500-200)*.
4. Preference to image processing system employing write-once CD-R (Compact Disc-Recordable) optical disks for government records with long-term or permanent retention schedules. CD-Rs permit images and associated information to be recorded but not erased from the disk. Images on CD-Rs can be reviewed, if necessary, for evidentiary purposes to prove that images have not been erased or altered in any way.
5. Agency using an imaging system shall index each image stored by the system with a specific or unique identifier. The index shall have the same retention period as the information and shall be migrated at the same time as the information.
6. National standards for optical systems are evolving. We recommend that agencies follow generally accepted principles and practices identified in, but not limited to, the following publications:

AIIM TR 26-1993 *Resolution as it Relates to Photographic and Electronic Imaging* (\$45.00)

AIIM TR 28-1991 *The Expungement of Information Recorded on Optical Write-Once-Read-Many (WORM) Systems* (\$33.00)

AIIM TR 31-1992 *Performance Guideline for the Admissibility of Records Produced by Information Technology Systems Part I: Performance Guideline for Admissibility of Records Produced by Information Systems as Evidence (Legal Admissibility Series)*

ANSI/AIIM MS 44-1993(R) *Recommended Practice for Quality Control of Image Scanners* (\$39.00)

ANSI/AIIM MS 52-1991 Recommended Practice for the Requirements and Characteristics of Documents Intended for Optical Scanning (\$39.00)

ANSI/AIIM MS 53-1993 Standard Recommended Practice - File Format for Storage and Exchange of Images - Bi-Level Image File Format: Part 1 (\$52.00)

ANSI/AIIM MS 55-1994 Standard Recommended Practice for the Identification and Indexing Page Components (Zones) for Automated Processing in an Electronic Image Management (EIM) Environment (\$52.00)

ANSI/AIIM MS 59-1996 Media Error Monitoring and Reporting Techniques for Verification of Stored Data on Optical Digital Data Disks (\$52.00)

(Legal Admissibility Series AIIM TR 28-1991 and ANSI/AIIM TR 31-1993 and ANSI/AIIM TR 31-1994 Parts III and IV \$143.00)

ANSI/AIIM TR 31-1993 Performance Guideline for Acceptance of Records Produced by Information Technology Systems Part II: Performance Guideline for the Acceptance by Government Agencies of Records Produced by Information Technology Systems

ANSI/AIIM TR 31-1994 Performance Guideline for the Legal Acceptance of Records Produced by Information Technology Systems Part III: Implementation of the Performance Guideline for the Legal Acceptance of Records Produced by Information Technology Systems

ANSI/AIIM TR 31-1994 Performance Guideline for the Legal Acceptance of Records Produced by Information Technology Systems Part IV: Model Act and Rule

7. Environmental requirements. Digital optical disks should never be stored in direct sunlight nor placed near heat sources. Optical disks are affected by dust, debris, and fingerprints. Plastic cartridges should never be removed, nor should the cartridge shutter be opened to expose the digital optical disk's recording surface. To protect disks from warping, they should not be subject to pressure and should be stored in an upright position when not in the disk drive.

- C. **Guidelines for records with *short-term* retention periods of ten years or less.**
If all previously identified guidelines are followed, an agency may maintain

records in an optical system and may dispose of the originals after receiving authorization for disposal from the State Comptroller. If the records are *vital records*, a security copy should be stored off-site.

- D. **Guidelines for non-permanent records with *long-term* retention period of more than ten years.** If all previously identified guidelines are followed, an agency may maintain records in an optical system and may dispose of the originals after receiving authorization for disposal from the State Comptroller provided that (1) security copies of the disks and indexes are stored off-site; (2) both the working and security copies of the disks and indexes are either migrated and converted if optical systems are upgraded or changed in a way that prevents access to the contents of the disks created by the old system; or (3) the records are recopied to new disks every ten years, whichever occurs first. Use a recording media that is not rewritable.
- E. **Records that have been scheduled as permanent and are maintained in optical disk systems will be authorized for disposal only if human-readable records are available.** If the optical disk is the original medium for the records, we recommend the generation and permanent retention of either paper copies or microforms. If original paper records are being scanned onto optical disks, it is recommended that they be backed up on microform or the original paper records be retained.

III. Electronic Records Eligible for Transfer to State Archives

- A. Information shall have been appraised by the State Archives as possessing long-term administrative, fiscal, legal, and/or historical value (requires Authorized Records Retention Schedule).
- B. Agencies may transfer electronic records either on open-reel magnetic tape or tape cartridges.
 - 1. Open-reel magnetic tape shall be on half inch, 9-track tape reels recorded at 1600 or 6250 bpi that meet ANSI X3.39-1986, American National Standard: Recorded Magnetic Tape for Information Interchange (1600 CPI, PE) or ANSI X3.54-1986, American National Standard: Recorded Magnetic Tape for Information Interchange (6250 CPI, Group Coded Recording).
 - 2. Tape cartridges shall be 18-track, 3480-class cartridges recorded at 37,871 bpi that meet ANSI X3.180-1990, American National Standard: Magnetic Tape and Cartridge for Information Interchange-18-Track, Parallel, half inch (12.65mm), 37871 cpi (1491 cpmm), Group-coded-Requirements for Recording.

- C. Records shall be in a format that is not dependent on specific hardware or software, written in ASCII or EBCDIC with all extraneous control characters removed (except record length indicators for variable length records, marks delimiting a data element, field, record or file, or Standard Generalized Markup Language tags). Records should not be compressed.
- D. Data files and databases shall be transferred as flat files or as rectangular tables, i.e., as two-dimensional arrays, lists, or tables. All records (within the context of the computer program) or "tuples", i.e., ordered collections of data items, within a file or table should have the same logical format. Each data element within a record should contain only one data value. A record should not contain nested repeating groups of data items. The file should not contain extraneous control characters, except record length indicators for variable length records, or marks delimiting a data element, field, record, or file. If records or data elements in different files need to be linked or combined, then each record must contain one or more data elements that constitute primary and/or foreign keys enabling valid linkages between the related records in separate files.
- E. Documentation adequate to identify, service and interpret electronic records shall be transferred with the records. Documentation for data files and data bases must include record layouts, data element definitions, and code translation tables for coded data. Data element definitions, codes used to represent data values and interpretations of these codes must match the actual format and codes as transferred. Documents containing SGML tags shall include a table for interpreting the SGML tags, when appropriate.
- F. Optically stored records. The State Archives is not accepting optical disks at this time.

IV. Public Access and Copying

- A. All records maintained in *any* physical format by a State agency are subject to the Uniform Information Practices Act (Modified), chapter 92F, Hawaii Revised Statutes ("UIPA"). The UIPA governs when documents shall be available for public access and copying. If you receive a request for a government record, you may contact the Office of Information Practices ("OIP") for assistance in determining whether that record is public.
- B. The OIP's position is that it would not be an act of good faith to destroy a document, even if that destruction is authorized by law, when the agency is aware of a pending request by a member of the public for access to or a copy of that record.

V. References

AIIM publications can be purchased from the Association of Information and Image Management, 1100 Wayne Avenue, Suite 1100, Silver Spring, MD 20910-5699 (<http://www.aiim.org/bookstore>) AND Techstreet, 1327 Jones Drive, Ann Arbor, MI 48105. (<http://www.techstreet.com>)

American National Standards Institute (ANSI) 11 West 42nd Street 13th Floor New York, NY 10036. ANSI X3.39-1986 \$18.00, ANSI X3.54-1986 \$28.00, ANSI X3.180-1990 \$32.00. Also available from Techstreet, 1327 Jones Drive, Ann Arbor, MI 48105. (<http://www.techstreet.com>)

Alabama. Department of Archives and History. *Guidelines for the Use of Digital Imaging Technologies for Long-Term Government Records in Alabama*. 1997. (http://www.archives.state.al.us/ol_pubs/digital.html)

36 CFR Part 1228 Subpart L Disposition of Federal Records - Transfer of records to the National Archives of the United States (1999). (<http://www.nara.gov/cfr/cfr1228l.html>)

36 CFR Part 1234 Electronic Records Management.

Connecticut. Office of the Public Records Administrator and State Archivist. General Letter 2001-1. *Standards for the Use of Imaging Technology for Storage, Retrieval, and Disposition of Public Records*. 2001.

Florida. Rules of the Department of State. Division of Library and Information Services. Chapter 1B-26. Records Management - Standards and Requirements.

Kentucky. Department for Libraries and Archives. *Policy Memorandum on Optical Storage of Public Records PM 96-1 (Updated September 25, 1998)*. (<http://www.kdla.state.ky.us/pubrec/imagpol.htm>)

Michigan. Department of Management and Budget. Department of State. Rules 24.401-24.418 on *Optical Imaging Systems (filed November 4, 1998)*.

National Archives and Records Administration Bulletin 99-05 Disposition of Electronic Records 9/24/99.

National Information Standards Organization. P.O. Box 1056, Bethesda, MD 20827. *Volume and File Structure of CD-ROM for Information Exchange*. ANSI/NISO/ISO 9660, 1990. \$98.00

National Institute of Standards and Technology. *Development of a Testing Methodology to Predict Optical Disk Life Expectancy Values (NIST Special Publication 500-200)*.

Nevada. Department of Museums, Library and Arts. *Electronic Document Management and Imaging Systems Guidelines; an Official State Standard*. May 17, 2000. (<http://dmla.clan.lib.nv.us/docs/nsia/records/edm2.htm>)

New Jersey. Administrative Code 15:3 Subchapter 4. Image Processing of Public Records. (<http://www.state.nj.us/state/darm/imaging.html>)

South Carolina. Department of Archives & History. *Optical Disk: Policy Statement and Recommended Practices*. Information Leaflet #13. Revised January 2001. (<http://www.state.sc.us/scdah/leaflet13.pdf>)

Storage and Handling Guidelines for the Maintenance of Electronic Records of Long-Term or Enduring Value. Information Leaflet #24. (<http://www.state.sc.us/scdah/24.pdf>)